Subject Index for Journal of Computer and Systems Sciences International, Volume 32, 1994

Absolute stability; **3**, 50
Accompanying state; **2**, 123
Adaptive control; **3**, 55; **4**, 67; **5**, 155
Adaptive control system; **6**, 112
Adaptive controller; **5**, 66
Adaptive minimax control; **5**, 80
Adaptive stabilization; **3**, 77
Adaptivity; **4**, 14
Addressing; **1**, 164
After-effect; **5**, 16
Aircraft take-off and landing under conditions of windshear; **3**, 110
Algebraic operator Riccati equation; **6**, 30
Algebraic Riccati matrix equation; **4**, 142
Almost global minimum; **4**, 116
Alterable files; **1**, 164
Analytical construction of the optimal control; **4**, 135
Anthropomorphic robot; **5**, 81
Antimissile defense; **2**, 81
Antimissile missile; **2**, 81
Aperiodicity; **4**, 103
A posteriori estimation; **5**, 45
δ-approximating trajectory; **2**, 146
Arrow-Hurwicz-Uzawa method; **4**, 27
Artificial intelligence; **1**, 58; 70; 103
Artificial intelligence systems; **4**, 158
Ashby effect; **2**, 56
Assertion logic; **6**, 106
Asymptotic stability; **5**, 16
Automatic control; **5**, 155
Automatic control systems; **2**, 56; **3**, 45

Ballistic motion; **5**, 150
Ballistics of spacecraft; **3**, 124
Banach space; **3**, 45
Basic control problem; **3**, 8
Bayesian inference mechanism; **6**, 112; 128
Bellman's function; **2**, 134
Bellman-Isaacs equation; **2**, 140; **2**, 157
Binary decision tree; **5**, 120
Biomechanical system; **1**, 109
Block-diagonal form; **5**, 1
Block-triangular form; **5**, 1
Boundary-value problems; **3**, 124

Carathéodory solution; **3**, 118
Cauchy problems; **3**, 45
Causal rules; **6**, 72
Cayley-Hamilton theorem; **3**, 35
Chattering mode; **2**, 134
Checking knowledge for consistency and completeness; **6**, 87
Circle criterion; **4**, 1
Circumscriptions; **6**, 72
Clustering; **3**, 166
Coarse control; **5**, 52
Coarseness; **4**, 14
Codd's relational algebra; **1**, 33
Cognitive graphics; **1**, 14
Communicative structures; **1**, 90
Computer-aided design; **1**, 145
Computer-aided design system; **1**, 90
Computer modeling; **1**, 109
Conceptual analysis; **1**, 1
Conceptual models; **1**, 90
Conceptual synthesis; **1**, 1
Conditional control forces for dynamical systems; **3**, 62
Conditional controllability; **2**, 1
Conditional stability; **2**, 1
Confidence factors; **4**, 165
Conjugate derivative; **2**, 140
Constraints straightening; **3**, 135
Control algorithm; **3**, 77
Control duration; **4**, 108
Control forces for dynamical systems; **3**, 62
Control of spacecraft rotation; **3**, 70
Control systems; **4**, 14
Controllable models; **2**, 16
Controllability; **3**, 55; 91; **5**, 73
Controller; **2**, 26; **5**, 57
Coordinate-wise multiplicative scheme; **4**, 126
Coordinating control; **2**, 56
Cooperative behavior of automata; **1**, 103
Convex fuzzy quantities; **6**, 154
Cost functional; **1**, 118
Cut set; **6**, 62

Data rhythms; **1**, 14
D-partition; **4**, 102

Decision making; **1**, 27
Decision-making theory; **1**, 7
Decomposability; **3**, 55
Deductive inference; **6**, 120
Descriptor problems; **6**, 30
Diagnostic expert system; **4**, 165
Differential equations; **1**, 109
Differential game; **2**, 164
Differential games; **3**, 110
Differential inclusion; **2**, 157
Diffusion approximation; **5**, 25
Digital adaptive control; **2**, 26
Disjoints matrix; **6**, 133
Dissipativity; **4**, 82
Distributed-parameter systems; **3**, 62
Domain-specific shell; **3**, 148
Dr. Watson (DrWT) systems; **4**, 158
δ-dynamically stable; **2**, 146
Dynamic systems; **3**, 62; **5**, 114

EKG rhythm structures; **1**, 14
Embedded set; **6**, 62
Energetically optimal controlled process; **3**, 86
Error location and correction in knowledge bases; **6**, 87
Exact tracking equation; **2**, 26
Excited subspace; **4**, 54
Expanded state space; **3**, 135
Expert systems; **3**, 148; **6**, 87
Exponential stability; **5**, 66
Extremum deformation; **3**, 135

Failure-stable procedures; **5**, 114
Files; **1**, 164
Finite-dimensional controller; **5**, 66
Finite element method; **2**, 110
Finitely-convergent algorithm; **4**, 82
Firing effectiveness; **2**, 81
Fixed ends of trajectory; **5**, 73
Floating nodes; **3**, 135
Flow-group method; **6**, 12
Flue gas temperature; **5**, 164
Fluents; **6**, 72
Force sensors; **2**, 89
Forgetting factor; **4**, 54
Forward and backward inferencing; **4**, 165
Frame models; **6**, 44
Frame problem; **6**, 72
Fuzzy controllers; **1**, 123
Fuzzy logic; **1**, 123
Fuzzy optimization; **2**, 73; **6**, 154
Fuzzy programming; **6**, 154
Fuzzy sets; **1**, 27; **5**, 45
Fuzzy systems; **1**, 39

G-convergence; **4**, 27; 126
Generalized functions; **3**, 130
Generalized linear programming; **6**, 36
Generalized work functional; **2**, 1
Geometric distribution; **3**, 166
Geophysical well exploration; **6**, 147
Gradient procedures; **6**, 16
Guaranteed result; **3**, 142
Guaranteed result function; **2**, 140
Guaranteeing estimation; **6**, 36
Guidance systems; **2**, 65; 81

H^∞-criterion; **5**, 38
$\mathbf{H}_\infty$-optimal systems; **4**, 43
H^∞-optimization; **5**, 38
Hamilton-Jacobi equation; **2**, 157
Hardy spaces; **5**, 1
Hermitian splines; **3**, 1
Homeostatic control; **1**, 103
Homoeostatic effect; **2**, 56
Hurwitz matrix; **4**, 27
Hybrid expert system; **1**, 145
Hydraulic structures; **3**, 148

Identification algorithms; **4**, 61
Image; **2**, 123
Improving variation; **3**, 135
Inductive-deductive reasoning; **1**, 39
Inductive inference; **6**, 120
Inertial navigation modeling software; **2**, 102
Initial navigation system; **2**, 102
Informationality; **6**, 1
Innovation; **5**, 132
Instruction systems; **5**, 132
Instructional knowledge structures; **5**, 139
Integral equation; **5**, 73
Intelligent control systems; **1**, 123
Intelligent help systems; **1**, 70
Intelligent problems; **1**, 90
Intelligent tutoring systems; **1**, 70; **5**, 139
Interactive systems; **6**, 44
Invariant embedding; **5**, 32
Invertible dynamic systems; **3**, 55
Isogeometric interpolation; **3**, 1

Joint force feedback; **2**, 89
Just-in-time manufacturing; **4**, 153

K-convex interpolation; **3**, 1
Kalman controllability; **3**, 118
Kalman filter; **4**, 49; **5**, 93
Kalman-Yakubovich lemma; **3**, 50
Kanban system; **4**, 153
Knowledge base adaptation; **6**, 112
Knowledge base consistency; **6**, 112
Knowledge-based systems; **1**, 1
Knowledge fuzziness; **4**, 165
Knowledge representation; **6**, 44
Knowledge synthesis; **1**, 7
Kronecker-Capelli theorem; **3**, 8

Lagrange equations; **2**, 164; **6**, 161
Laminated topological space; **3**, 166
Lifting cranes; **4**, 108
Line of sliding; **5**, 100
Linear dampers; **3**, 104
Linear interval programming; **6**, 154
Linguistics; **3**, 155
Literal; **6**, 120
Load situations; **3**, 166
Local functional; **4**, 135
Logic; **3**, 155
Logic equation; **6**, 133
Logic inference; **6**, 133
Logic production; **6**, 120
Logical inference; **1**, 7
LQ-optimal control; **2**, 116
LR-type fuzzy linear algebraic equations; **6**, 147
Lunar landing; **3**, 124
Lur'ye equations; **4**, 142
Lur'ye-Riccati equation; **4**, 43
Lyapunov function; **3**, 50; 118
Lyapunov-Krasovskiy functional; **5**, 16
Lyapunov-Popov functions; **5**, 8

Manipulation robot; **2**, 89, 164
Manipulator in viscous medium; **3**, 130
Manufacturing control systems; **4**, 153
Margin of stability; **5**, 52
Market systems; **5**, 132
Martingale; **1**, 33
Mathematical modeling; **2**, 102
Matrix spectral density; **4**, 76
Maximum function; **3**, 8
Maximum principle; **2**, 116; **3**, 124
Mayer's problem; **5**, 25
Mechanical system; **1**, 109; **4**, 108
Medical diagnosis; **4**, 165
Membership function; **5**, 45
Metal heating; **5**, 164
Method of steepest descent; **6**, 16
Microstructural characteristics; **1**, 65
Minkowski function; **3**, 17
Minimal realization; **5**, 1
Minimally necessary energy expenditures; **3**, 86
Minimization of functional describing the state of the system; **3**, 62
Minimax filtering; **5**, 87
Minimax problem; **3**, 8
Minimax solution; **2**, 157
Modal control; **1**, 39
Modal dominance; **1**, 39
Modal systems; **1**, 39
Models; **1**, 16
Monotelevision system; **3**, 166
Motion control; **5**, 150
Multicriteral optimal control; **1**, 146
Multidimensional linear filter; **4**, 76
Multidimensional model; **1**, 156
Multidimensional stationary random processes; **4**, 76
Multiextremal multidimensional problems; **2**, 1
Multilink manipulator; **6**, 161
Multiobjective analysis; **1**, 145
Multiplicative algorithm; **4**, 27
Multiplicative schema; **4**, 126
Multistage estimation; **5**, 114

Naive physics; **1**, 58
Natural language; **3**, 155
Nilsson algorithm; **1**, 46
Noise; **4**, 89; **5**, 45
Nonanticipating; **4**, 142
Nonlinear discrete control systems; **4**, 1
Nonlinear filtering; **5**, 87
Nonlinear operations; **3**, 130
Nonlinear stochastic systems; **1**, 118
Nonleading function; **2**, 123
Nonminimum-phase objects; **4**, 82
Nonoriented network; **6**, 1
Nonparametric regression analysis; **4**, 61
Nonparametric uncertainty; **4**, 1
Nonstationary matrices; **4**, 76
NP-complete; **6**, 120
Normalized Boolean algebra; **6**, 112
Normalized least-squares method; **4**, 54
Nyquist criterion; **4**, 1

ϵ-observability; **4**, 89
Optimal control; **1**, 118; **2**, 1; **5**, 73; **6**, 30

Optimal control action; 2, 150
Optimal controller; 2, 127; 5, 57
Optimal heating conditions; 5, 164
Optimal Lyapunov function; 2, 151
Optimal regulators; 3, 98
Optimal trajectory; 2, 146
Optimization of space flight dynamics; 3, 124
Optimization problem; 5, 120
Optimum controller; 2, 127
Optimum design of carillon belts; 2, 110
Oriented network; 6, 1
Overgraph; 2, 157

Parallel multiplicative schema; 4, 126
Parametric identification; 5, 109
Pareto optimality; 2, 146
Partitioned matrices; 6, 161
Passive and active dampers; 3, 104
Petrophysical equations; 6, 147
Phase portraits; 5, 100
Point estimation of probabilities; 6, 128
Pontryagin's maximum principle; 4, 135; 5, 32
Possibility distribution; 6, 106
Possibility theory; 6, 154
Priority method; 6, 12
Probability functional; 6, 62
Prohibition; 6, 133
Project management; 5, 132
Projections; 5, 1
Projector; 5, 1
Positional differential game; 3, 142
Positional diffential game of convergence; 2, 140
Positional functional; 3, 142
Proper extremal; 4, 116

Qualitative physics; 1, 58
Quality criterion; 5, 57
Quality functionals; 5, 80
Quantile functional; 6, 62
Quantum particle; 3, 130
Quasiconcave function; 6, 154
Quasi-conservative systems; 5, 25
Quasi-efficient solutions; 2, 73
Quasi-optimal control; 5, 25
Quasiperiodic control; 3, 35
Queuing system; 4, 153

Random errors; 2, 16
Random fields; 2, 65
Random network; 6, 1
Realization into a graph; 6, 1
Recurrent linear programming; 5, 80
Recursive algorithms; 2, 33
Recursive least-squares method; 4, 54
Regression models; 3, 148
Relational database; 1, 33
Relative angular frequency; 5, 8
Reliability; 5, 114
"Relikt-2" project; 6, 36
Reversible pendulum; 3, 77
Risk coefficients; 5, 93
Robot manipulations; 4, 67
Robust filter; 4, 49
Robust identification algorithms; 2, 33
Robust modality; 4, 102
Robust stability; 4, 1; 102
Robustness; 4, 14; 5, 52
Rule-based intelligent systems; 6, 87

Scale production; 5, 164
Sectionalized matrix; 6, 133
Sectionalized vector; 6, 133
Self-adjusting systems; 5, 16
Self-learning; 5, 120
Self-learning algorithms; 1, 46
Semantic graph; 2, 44
Semantic nets; 6, 44
Sensitivity coefficients; 4, 14; 43
Sensitivity function; 1, 156
Servicing; 6, 12
Shaping filter; 4, 76
Shortest-path search problems; 1, 46
Sign function; 5, 1
Significance function; 2, 44
Singularly perturbed control system; 3, 91
Situation calculus; 6, 72
Situational control; 2, 44
Sliding regions; 6, 22
Smoothing control; 6, 22
Solar radiation as spacecraft control actuator; 3, 70
Spacecraft stabilization by solar panels; 3, 70
Spectral-time identification; 5, 109
Speed gradient algorithms; 4, 67
Speed of response; 5, 100
S-system; 4, 142
Stability; 5, 114
Stabilizability; 3, 55
Stabilization of sets; 2, 17
Stabilizing controller; 2, 127
Stack memory automation; 6, 112
State identifiers; 4, 89
Statistical modeling; 2, 65

Step differential equation; **3**, 142
Stepwise descent; **3**, 135
Stochastic program synthesis; **3**, 142
Stochastic systems; **4**, 49
Stratonovich's equation; **5**, 87
(Strong) dynamic stability; **2**, 146
(Strong) time consistency; **2**, 146
δ-strongly dynamically stable; **2**, 146
Structure optimization; **2**, 110
Student model; **1**, 70
Subdifferential; **2**, 157
Subgraph; **2**, 157
Suboptimal controller; **6**, 22
Successive linearization; **3**, 135
Superdifferential; **2**, 157
Sureness; **2**, 44
Switchings function; **2**, 164
Sylvester's matrix equation; **2**, 39
Symbolic addressing; **1**, 164
System identification; **2**, 16
System sensitivity; **4**, 89
Systematic errors; **2**, 16

Tangent cone; **3**, 17
Teaching machine; **5**, 120
Teaching technique; **5**, 139
Theory of possibility; **2**, 73
Theory of statistical decisions; **5**, 93
Throughput; **6**, 1
Torque sensors; **2**, 89
Transfer function; **5**, 66
Transport robots; **5**, 155
Triangular norm; **6**, 106
Two-point boundary problem; **4**, 135

Uncertainty relations; **4**, 89
Universal surface; **2**, 134
u-stable function; **2**, 140
Unmodellable perturbations; **6**, 36

Variable-mass point; **3**, 130
Verification of knowledge bases; **6**, 87
Vertex degree; **6**, 1
Vibrating machinery control; **3**, 104
Vibration damping and control; **3**, 104
Viscosity solution; **2**, 140
Volterra operators; **2**, 116

Ważewski's condition; **3**, 118
θ-weak minimum; **4**, 116
Weight function; **6**, 1
Weighting matrix; **3**, 98
Windshear; **3**, 110

Yale Shooting Problem; **6**, 72
y-positive-definite function; **2**, 151
y-stable motion; **2**, 151

Zero controllability; **3**, 35
z-extendible solution; **2**, 151